

# Notice of Allowability

Application No.

10/606,699

Examiner

Yaima Campos

Applicant(s)

MEIRI ET AL.

Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/11/07.
2. ☒ The allowed claim(s) is/are 1,3,6-10,12 and 15-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Donald W. Muirhead (Reg. No. 33,978) on December 19, 2007.

3. The application has been amended as follows:

4. **Claim 1** A method of using a local storage device to read desired data while the data is being transferred from the local storage device to a remote storage device, the method comprising:

if the desired data is entirely in a cache of the local storage device, the local storage device returning the data from the cache, wherein the cache of the local storage device contains data written to the local storage device begun after a first time and before a second time that is associated with a first chunk of data and contains data written to the local storage device begun after the second time that is associated with a second chunk of data different from the first chunk of data and wherein after completion of all writes associated with the first chunk of data, the local storage device initiates transfer of writes associated with the first chunk of data to the remote storage device, an order of the transfer from the local storage device to the remote storage device of data from the first chunk being independent of an order in which data writes of the first chunk are provided to the local storage device; and

if the desired data is not entirely in the cache of the local storage device, reading data from the remote storage device to the local storage device and the local storage device merging the data from the remote storage device with data from the cache of the local storage device at the local storage;

prior to reading data from the remote storage device to the local storage device, creating a temporary storage area at the local storage device if there is data from the local storage device that is to be used;

prior to creating a temporary storage area, locking slots of the local storage device that correspond to data from the local storage device that is to be used;

after merging the data, unlocking the slots of the local storage device that correspond to data from the local storage device that is to be used.

5. **Claim 2** (Canceled).

6. **Claim 3** A method, according to claim 2 1, wherein the temporary storage area is a scratch slot.

7. **Claims 4-5** (Canceled).

8. **Claim 10** Computer software, stored in a computer-readable medium, that reads desired data while the data is being transferred from the local storage device to a remote storage device, comprising:

executable code that returns the data from the cache if the desired data is entirely in a cache of the local storage device, wherein the cache of the local storage device contains data written to the local storage device begun after a first time and before a second time that is associated with a first chunk of data and contains data written to the local storage

device begun after the second time that is associated with a second chunk of data different from the first chunk of data and wherein after completion of all writes associated with the first chunk of data, the local storage device initiates transfer of writes associated with the first chunk of data to the remote storage device, an order of the transfer from the local storage device to the remote storage device of data from the first chunk being independent of an order in which data writes of the first chunk are provided to the local storage device; and

executable code that reads data from the remote storage device to the local storage device and merges the data from the remote storage device with data from the cache of the local storage device at the local storage device if the desired data is not entirely in the cache of the local storage device;

executable code that creates a temporary storage area at the local storage device if there is data from the local storage device that is to be used prior to reading data from the remote storage device to the local storage device;

executable code that locks slots of the local storage device that correspond to data from the local storage device that is to be used prior to creating a temporary storage area;

executable code that unlocks the slots of the local storage device that correspond to data from the local storage device that is to be used after merging the data.

9. **Claim 11** (Canceled).

10. **Claim 12** Computer software, according to claim ~~11~~ 10, wherein the temporary storage area is a scratch slot.

11. **Claims 13-14** (Canceled).

**RELEVANT ART CITED BY THE EXAMINER**

12. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

13. The following references teaches data backup copying with delayed directory updating wherein data all update data is retentively stored without regard to update sequence.

**U.S. PATENT NUMBER**

US 5,555,371

**REASONS FOR ALLOWANCE**

14. The following is an examiner's statement of reasons for allowance:

15. Per the instant office action, claims **1, 3, 6-10, 12 and 15-18** are considered as allowable subject matter.

16. Claims **1 and 10** (as amended above) are neither clearly anticipated nor rendered obvious by the combination of cited prior art references, as discussed with Applicant's representative on December 19, 2007.

17. The reasons for allowance in the instant application of claims 1 and 10 (as amended above) is the *combination with the inclusion* in these claims of the limitation of a method/system for using a local storage device to read data from a remote storage device while data is being transferred from the local storage device to a remote storage device wherein **"...prior to reading data from the remote storage device to the local**

storage device, creating a temporary storage area at the local storage device if there is data from the local storage device that is to be used;

prior to creating a temporary storage area, locking slots of the local storage device that correspond to data from the local storage device that is to be used; after merging the data; after merging the data, unlocking the slots of the local storage device that correspond to data from the local storage device that is to be used.” The prior art of record including the disclosure above neither anticipates nor renders obvious the above-recited combination.

18. Dependent claims 3, 6-9, 12 and 15-18 are allowable at least for the reasons recited above as including all of the limitations of the allowable independent base claims upon which they depend.

19. Furthermore, the term “computer-readable medium” as recited in claims 10, 12 and 15-18 is interpreted as comprising hardware, computer-readable storage media, such as data storage devices 37 and 38 (Figure 1).

20. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

#### **DIRECTION OF FUTURE CORRESPONDENCES**

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaima Campos whose telephone number is (571) 272-1232. The examiner can normally be reached on Monday to Friday 8:30 AM to 5:00 PM.

**IMPORTANT NOTE**

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 19, 2007



Yaima Campos  
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Art Unit 2185

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